

portion will cut work material as a single tooth respectively. And in perimeter tooth of each tip, the other portion will cut the work material as a two sheet tooth.

IN THE CLAIMS

Please amend Claims 19, 22, 33-35, and 37 as follows:

*C2* 19. (Twice Amended) A tip comprising a first edge corner having a corner angle of less than  $90^\circ$ , and an adjacent second edge corner having a corner angle of less than  $90^\circ$ , wherein the tip is formed of a substantially quadrilateral-shaped plate.

*C3* 22. (Twice Amended) The tip of claim 19, wherein a cutting edge extending between the first edge corner and the second edge corner is not parallel to an opposite cutting edge.

*C4* 33. (Twice Amended) The cutting tool of claim 37, wherein a cutting edge extending from the first corner inward toward the third corner in a radial direction of the tool body is defined as a front cutting edge extending to a rotation axis of the tool body.

34. (Once Amended) The cutting tool of claim 32, wherein:

each tip of the plurality of tips has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges;  
one of the long cutting edges in a first of the plurality of tips projecting towards the distal end of the tool body is defined as a first front peripheral cutting edge and one of the short cutting edges in the first of the plurality of tips is defined as a first outer peripheral cutting edge;  
and

one of the short cutting edges in a second of the plurality of tips projecting towards the distal end of the tool body is defined as a second front peripheral cutting edge and one of the long cutting edges in the second of the plurality of tips is defined as a second outer peripheral cutting edge.

C4 35. (Once Amended) The cutting tool of claim 34, wherein the first and second outer peripheral cutting edges are oriented such that rotation paths of the first and second outer peripheral cutting edges overlap when the tool body is rotated around a rotation axis.

C5 37. (Twice Amended) The cutting tool of claim 32, each tip of the plurality of tips has a third corner having a corner angle of less than 90°.

Please add new Claims 59-89 as follows:

C6/39 59. (New) The tip of claim 19, wherein said tip has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges, and wherein said long cutting edges are not parallel to one another.

60. (New) The tip of claim 59, wherein one of said short cutting edges extends between the first edge corner and the second edge corner.

61. (New) The tip of claim 19, wherein:

    said first edge corner is defined by a first cutting edge and a second cutting edge;

    said first cutting edge includes a main cutting tooth portion and a sub-cutting tooth portion;

    said sub-cutting tooth portion is provided adjacent a joint between said first cutting edge and said second cutting edge;

    said sub-cutting tooth portion is slightly inclined with respect to main cutting tooth portion; and

    wherein said corner angle of said first edge corner is defined as an angle between said main cutting tooth portion of said first cutting edge and said second cutting edge.

62. (New) The cutting tool of claim 32, wherein each tip of said plurality of tip has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges

defined as short cutting edges, and wherein said long cutting edges are not parallel to one another.

63. (New) The cutting tool of claim 62, wherein one of said short cutting edges extends between the first corner and the second corner.

64. (New) The cutting tool of claim 32, wherein said plurality of tips comprises at least four tips.

65. (New) The cutting tool of claim 32, wherein:

said first corner is defined by a first cutting edge and a second cutting edge;

said first cutting edge includes a main cutting tooth portion and a sub-cutting tooth portion;

said sub-cutting tooth portion is provided adjacent a joint between said first cutting edge and said second cutting edge;

said sub-cutting tooth portion is slightly inclined with respect to main cutting tooth portion; and

wherein said corner angle of said first corner is defined as an angle between said main cutting tooth portion of said first cutting edge and said second cutting edge.

66. (New) The cutting tool of claim 32, wherein:

said tool body has an axis of rotation;

said plurality of tips comprises a first tip, a second tip, a third tip, and a fourth tip;

said first tip and said third tip are provided within a first groove on said tool body, said first tip and said third tip being provided at different locations along the axis of rotation, said first tip and said third tip being spaced apart along the axis of rotation; and

said second tip and said fourth tip are provided within a second groove on said tool body, said second tip and said fourth tip being provided at different locations along the axis of rotation, said second tip and fourth tip being spaced apart along the axis of rotation.

67. (New) The cutting tool of claim 66, wherein:

said first tip has a first outer peripheral cutting edge and the second tip has a second outer peripheral cutting edge, said first outer peripheral cutting edge and said second outer peripheral cutting edge are oriented such that rotation paths of said first outer peripheral cutting edge and said second outer peripheral cutting edge overlap when said tool body is rotated around the rotation axis;

said third tip has a third outer peripheral cutting edge and the fourth tip has a fourth outer peripheral cutting edge, said third outer peripheral cutting edge and said fourth outer peripheral cutting edge are oriented such that rotation paths of said third outer peripheral cutting edge and said fourth outer peripheral cutting edge overlap when said tool body is rotated around the rotation axis;

a first space provided between said first outer peripheral cutting edge and said third outer peripheral cutting edge, said first space being oriented such that a rotation path of at least one of said second outer peripheral cutting edge and said fourth outer peripheral cutting edge overlap with said first space when said tool body is rotated around the rotation axis;

a second space is provided between said second outer peripheral cutting edge and said fourth outer peripheral cutting edge, said second space being oriented such that a rotation path of at least one of said first outer peripheral cutting edge and said third outer peripheral cutting edge overlap with said second space when said tool body is rotated around the rotation axis.

68. (New) A tip comprising a substantially planar plate including a first edge corner having a corner angle of less than  $90^\circ$ , and an adjacent second edge corner having a corner angle of less than  $90^\circ$ .

69. (New) The tip of claim 68, further comprising a third edge corner having a corner angle of less than  $90^\circ$ .

70. (New) The tip of claim 68, wherein a cutting edge extending between the first edge corner and the second edge corner is not parallel to an opposite cutting edge.

71. (New) The tip of claim 68, wherein the plate has a seating face and a cutting edge face, wherein the tip has at least one side surface that extends between the seating face and the cutting edge face, wherein the at least one side surface outwardly inclines from the seating face to the cutting edge face.

72. (New) The tip of claim 71, wherein the seating face is parallel to the cutting edge face.

73. (New) The tip of claim 71, wherein the seating face is not parallel to the cutting edge face.

74. (New) The tip of claim 68, wherein said tip has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges, and wherein said long cutting edges are not parallel to one another.

75. (New) The tip of claim 74, wherein one of said short cutting edges extends between the first edge corner and the second edge corner.

76. (New) The tip of claim 68, wherein:

    said first edge corner is defined by a first cutting edge and a second cutting edge;

    said first cutting edge includes a main cutting tooth portion and a sub-cutting tooth portion;

said sub-cutting tooth portion is provided adjacent a joint between said first cutting edge and said second cutting edge;

    said sub-cutting tooth portion is slightly inclined with respect to main cutting tooth portion; and

    wherein said corner angle of said first edge corner is defined as an angle between said main cutting tooth portion of said first cutting edge and said second cutting edge.

77. (New) A cutting tool comprising:

    a tool body having a distal end; and

    a first tip mounted to the distal end of the tool body, said first tip comprising a substantially planar plate including a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less than 90°, wherein at least one of the first edge corner and the second edge corner is arranged along an outer periphery of the distal end of the tool body.

78. (New) The cutting tool of claim 77, wherein at least one of the first edge corner and the second edge corner is arranged along a front edge of the distal end of the tool body.

79. (New) The cutting tool of claim 77, further comprising a second tip mounted to the distal end of the tool body, said second tip comprising a plate including a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less than 90°, wherein at least one of the first edge corner and the second edge corner of said second tip is arranged along the outer periphery of the distal end of the tool body.

80. (New) The cutting tool of claim 79, further comprising a third tip mounted to the distal end of the tool body, said third tip comprising a plate including a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less

than 90°, wherein at least one of the first edge corner and the second edge corner of said third tip is arranged along the outer periphery of the distal end of the tool body.

81. (New) The cutting tool of claim 80, further comprising a fourth tip mounted to the distal end of the tool body, said fourth tip comprising a plate including a first edge corner having a corner angle of less than 90°, and an adjacent second edge corner having a corner angle of less than 90°, wherein at least one of the first edge corner and the second edge corner of said fourth tip is arranged along the outer periphery of the distal end of the tool body.

82. (New) The cutting tool of claim 81, wherein said first tip, said second tip, said third tip, and said fourth tip are identical in shape.

83. (New) The cutting tool of claim 81, wherein:

each tip of said first tip, said second tip, said third tip, and said fourth tip have two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges;

one of said long cutting edges of said first tip extends along the outer periphery;

one of said short cutting edges of said second tip extends along the outer periphery;

one of said long cutting edges of said third tip extends along the outer periphery; and

one of said long cutting edges of said fourth tip extends along the outer periphery.

84. (New) The cutting tool of claim 81, wherein:

said tool body has an axis of rotation;

said first tip and said third tip are provided within a first groove on said tool body, said first tip and said third tip being provided at different locations along the axis of rotation, said first tip and said third tip being spaced apart along the axis of rotation; and

said second tip and said fourth tip are provided within a second groove on said tool body, said second tip and said fourth tip being provided at different locations along the axis of rotation, said second tip and fourth tip being spaced apart along the axis of rotation.

85. (New) The cutting tool of claim 84, wherein:

said first tip has a first outer peripheral cutting edge and the second tip has a second outer peripheral cutting edge, said first outer peripheral cutting edge and said second outer peripheral cutting edge are oriented such that rotation paths of said first outer peripheral cutting edge and said second outer peripheral cutting edge overlap when said tool body is rotated around the rotation axis;

said third tip has a third outer peripheral cutting edge and the fourth tip has a fourth outer peripheral cutting edge, said third outer peripheral cutting edge and said fourth outer peripheral cutting edge are oriented such that rotation paths of said third outer peripheral cutting edge and said fourth outer peripheral cutting edge overlap when said tool body is rotated around the rotation axis;

a first space provided between said first outer peripheral cutting edge and said third outer peripheral cutting edge, said first space being oriented such that a rotation path of at least one of said second outer peripheral cutting edge and said fourth outer peripheral cutting edge overlap with said first space when said tool body is rotated around the rotation axis; and

a second space is provided between said second outer peripheral cutting edge and said fourth outer peripheral cutting edge, said second space being oriented such that a rotation path of at least one of said first outer peripheral cutting edge and said third outer peripheral cutting edge overlap with said second space when said tool body is rotated around the rotation axis.

86. (New) The cutting tool of claim 77, wherein said first tip has two opposing cutting edges defined as long cutting edges and another two opposing cutting edges defined as short cutting edges, and wherein said long cutting edges are not parallel to one another.

87. (New) The cutting tool of claim 86, wherein one of said short cutting edges extends between the first edge corner and the second edge corner.

88. (New) The cutting tool of claim 77, wherein:

    said first edge corner is defined by a first cutting edge and a second cutting edge;  
    said first cutting edge includes a main cutting tooth portion and a sub-cutting tooth portion;

    said sub-cutting tooth portion is provided adjacent a joint between said first cutting edge and said second cutting edge;

    said sub-cutting tooth portion is slightly inclined with respect to main cutting tooth portion; and

    wherein said corner angle of said first edge corner is defined as an angle between said main cutting tooth portion of said first cutting edge and said second cutting edge.

89. (New) The cutting tool of claim 77, said first tip has a third edge corner having a corner angle of less than 90°.